Menlo Park Notebook [N-80-10-01] (unnumbered)

This notebook covers the periods October 1880 and February-July 1882. All of the entries are by Edison. Included are notes and drawings relating to lamp caveats, lamp experiments, meters, dynamos, and voltage regulators; notes and drawings concerning the direct conversion of electrical energy from coal; drawings and calculations for electric power distribution systems; and notes and calculations about secondary batteries. There is also a list of new patents, dated July 1, 1882. The label on the front cover is marked "Oct. 1880." There is no Menlo Park notebook number on the label. The book contains 238 numbered pages.

Blank pages not filmed: 48-49, 72-79, 94-95, 154-155, 174-177, 184-185, 194, 199-211, 216-238.

Missing page numbers: 181-182, 195-198.

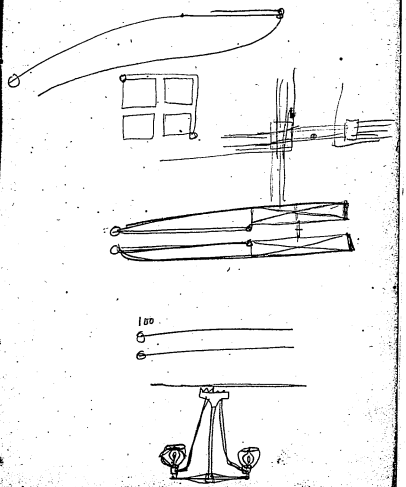
LIBRARY OF THE

BOARD OF PATENT CONTROL,

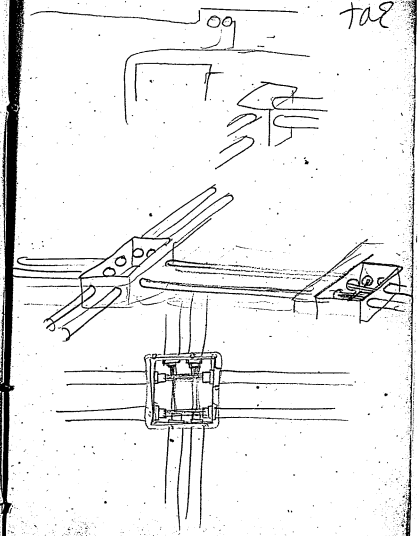
120 BROADWAY, NEW YORK.

From Edison
GENERAL ELECTRIC
in Board Sr. N.J.
May 1, 1898

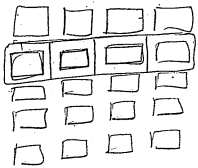
Oct 1 1880



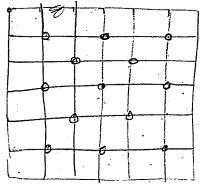
Oct 1880 5

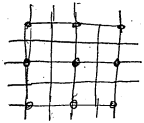


Oct 1. 1880
Jail

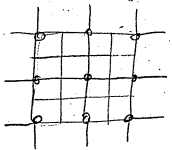


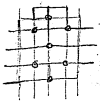
Oct 1 1880

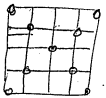


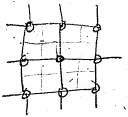


Oct 1 1880
TAR

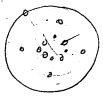








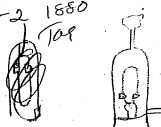
Oct 1880
TAE



Try the experiments then Caveat

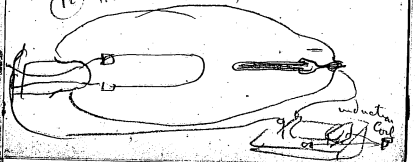
Oct 2 1880

Top



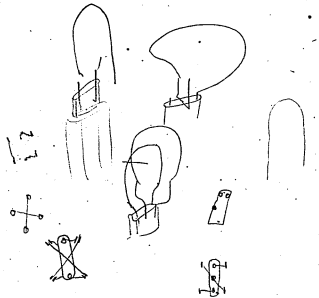
The Carbon may be
boarded in tar & then
tar allowed to dry —
then bulb exhausted &
heated by current or by heliostat focus

Heating of the Carbon horse shoe
by a focus of the sun or
Electric light — in vapor of a Carbon
Compound such as gasoline
(10) the Volatile paraffins



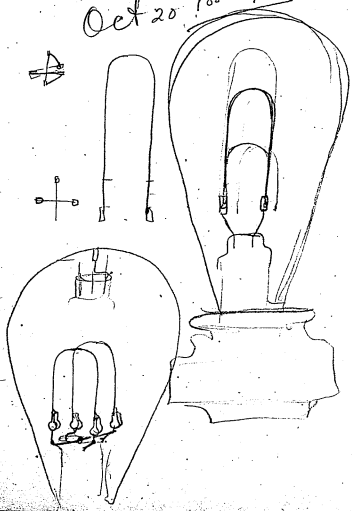
Oct 2 1880 TAE

The induction Coil works
Continuously. - The tube is
Exhausted only partially
So that ~~three~~ spark, weak &
Strong - one Electrode is a
horseshoe loop ~~of~~ the other
a stick of Carbon - it comes
from the stick to the loop
& deposits there on, The
stick of Carbon may have
Tar in it or any thick carbonaceous
substance ~~Cocoa~~ Vapor leaving
no ash at the Ex hausted used
or it may be soaked in .
or the tube may have ~~some~~ a
liquid Volatile paraffin or a
Vapor or the ~~required~~ Vacuum may
be a volatile body decomposed
to form Carbon



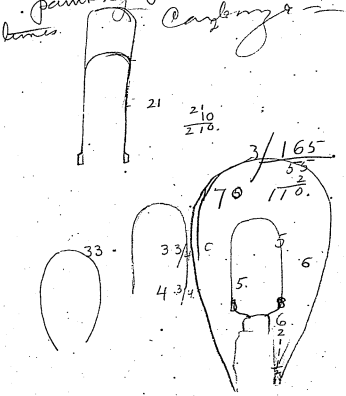
9 perhaps 16 — 144
10 12 — 132
12 10 120

Oct 20 1880 TAE



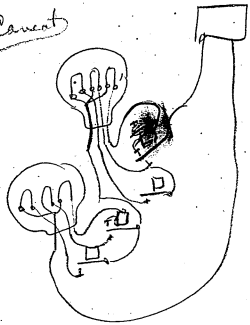
Oct 20 1880

Paint Bamboo with oil
tar dry by gentle heat
paint a gain & thus several
times. Carbonyx —

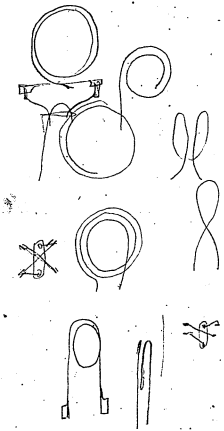


Oct 24 1880 TOE

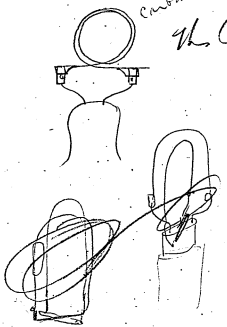
Caveat



• ~~Model~~ lamps in series with multiple Carbons + magnets so that if one Carbon in a lamp burnt and the current was broken that one then it took that burnt another + so on but the presents no lamp whatever interfering with the others

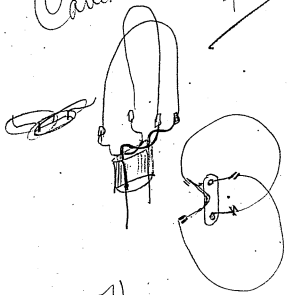


Oct 24 1880



Caveat Oct 24 1850

TOE

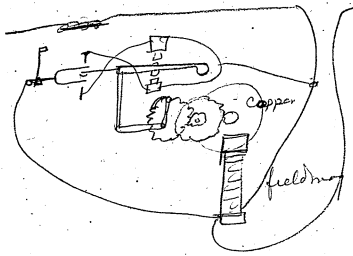


Caveat

Oct 24/80
Tal

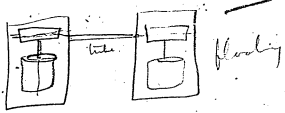
Carbonized thread + platinum clamps

For the Experiment of fusing a Carbon in a compressed almosphere of available gas + bringing to incandescence to disparage Carbon or loop also in a rarified almosphere of ditto to Manufacture Carbon with Lister's surface operation economy



Meter Oct 2 1880

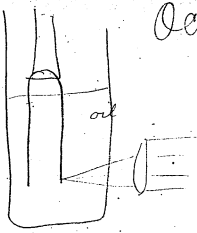
Oct 2 1880



Meter

Oct 2 1880

TOE



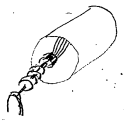
bumedungen Ende

Oct 2 1880
TAS

Impregnate the end of a loop with silver salt or leaf silver then bring to Incandiscence to make it melt & run in, by platinum also salts of ditto, The old plan or Carburizing by heat with Salts these Metals is n.g. Electrical Incan is the boss —

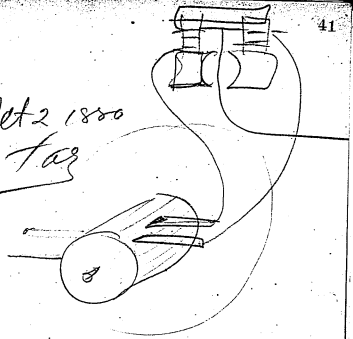
Oct 2 1880

Tur



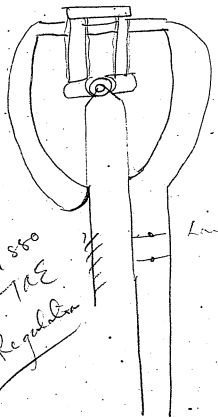
Wind a bobbin for Dynamo with 4 distinct & seperate layers, & connect Each with a Commutator so 4 distinct seperate ckts can be had from one Machine — 1 of these may (& be used) for the field — or using 6 layer of wire could be funded up in seperate Closed ckts each provided with a Commutator.

Oct 2 1880
Fig



Method for running Unfixed
of the little Current at the
Neutral "point"

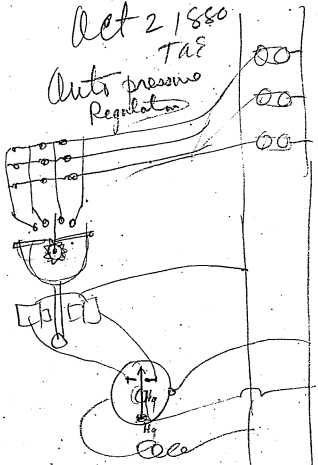
Double Coils

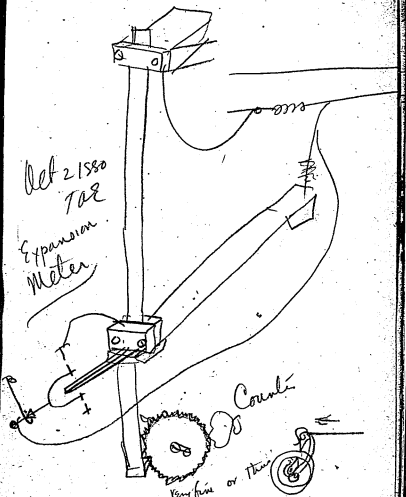


Oct 2 1860
TAE
Self Regulation

Oct 2 1880
TAE

Auto pressure
Regulator




Oct 21 1880
TAE
Expansion
Meter
Coarse
Very fine or Thin

Oct 10 1880.

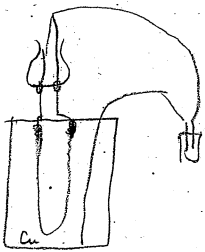
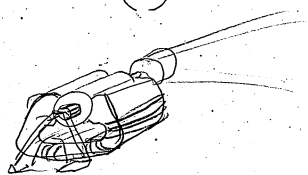


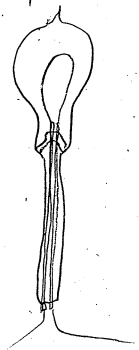
plate Carb to clamps

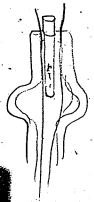
then Eat off Cu from Carbon by acid Except at Clamps

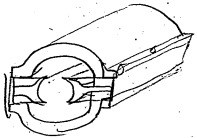


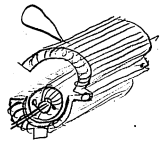
July 5 1882

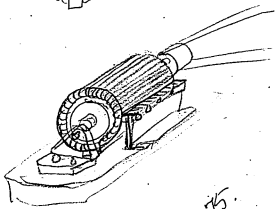
Make a lamp with 8 inches platina leading wire sealed in tubes for leading in wire



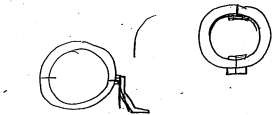


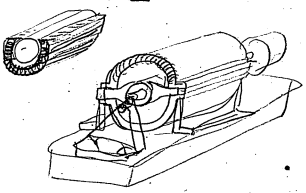






14. 2. 75. 150 1 300 600





3 4

450. 27

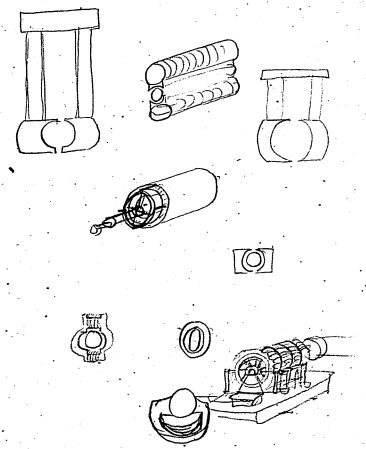
12 243

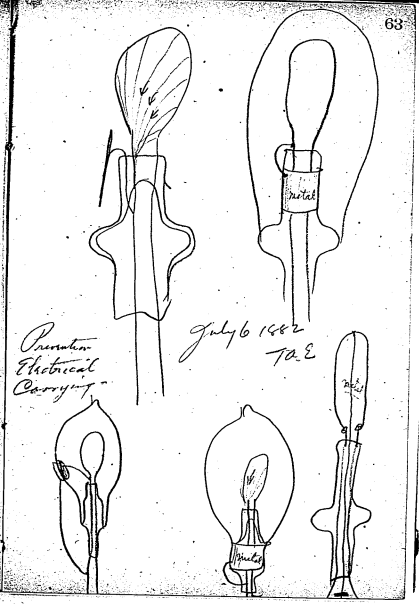
15 12

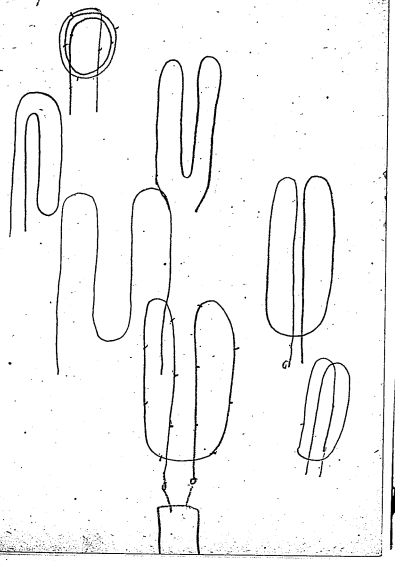
3 0 0

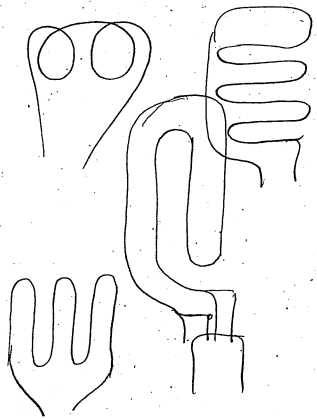
1 1 0 0

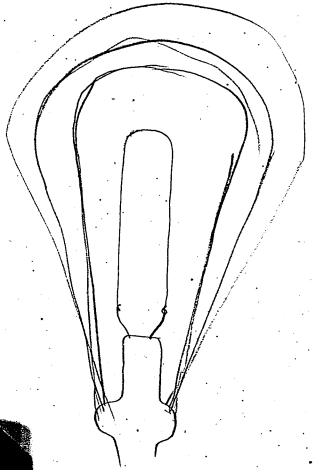
1 8 0 0

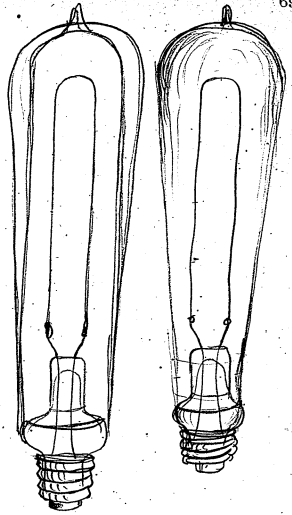


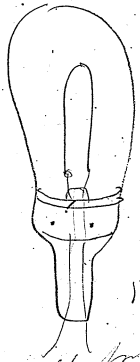

Platinum
July 6 1882
T.A.E.
Platinum







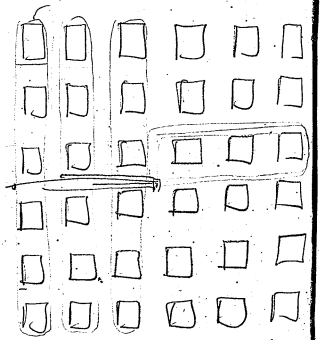




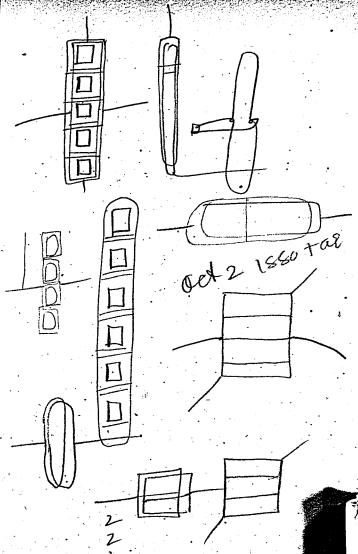
July 5th
1882
Tag

Inside plat
+ outside
both Connected
together by wires
through the glass

Incandescent Electric Light Company



Oct 2 1880 tar



Oct 2 1880 tar

2
2
2

129
129
1161
258
129
16641
44
66564
66564
7322
3660
3294

120
120
2400
120
14400
5760
5760
6336
316.8
8
253.44

125
125
625
250
125
15625
44
62500
62500
6875
3437
9
30936

129.

3168, Empty

900 Pamps.

3000.

120.

12 volts

Volts

128
128
1024
256
128
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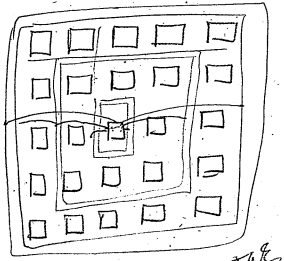
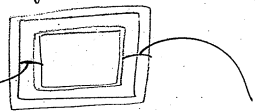
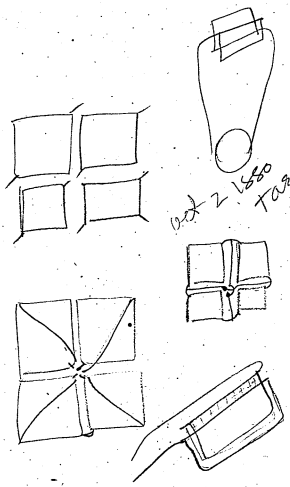
9
3214.00

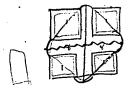


oct 2 1880 TWE




but 2 1880 tar
but 2 1880 tar

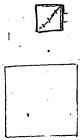
16+
16-

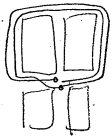


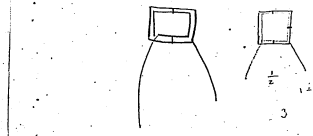
2 4 1÷4

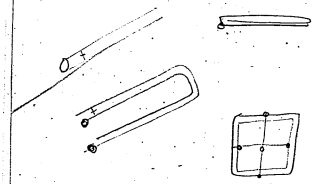
Oct 2 1880 Tag

5.

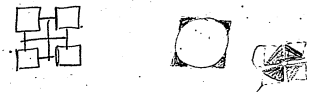




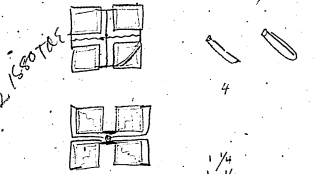


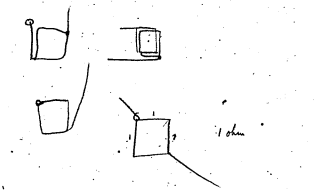


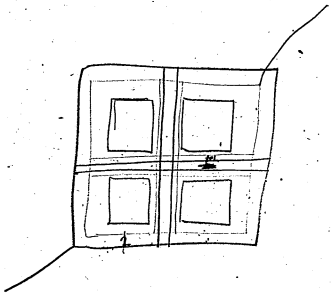
Cut 2 isolator



Cut 2 isolator

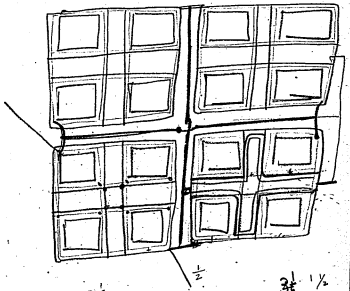






$3\frac{1}{2}\ \frac{1}{2}$ / 4 = $3\frac{1}{2}$

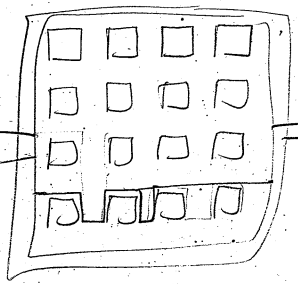
$3\frac{1}{2}\ 1\frac{1}{2}$ / 5 = Oct 21 1880 Tag

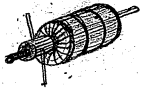


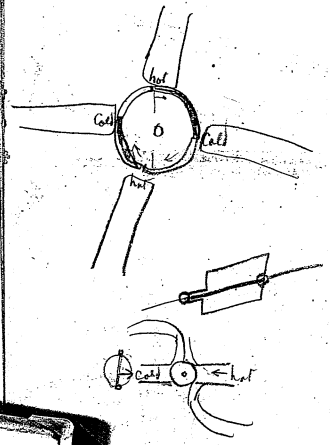
4. $3\frac{1}{2}$ $\frac{1}{2}$ $3\frac{1}{2}$ $1\frac{1}{2}$

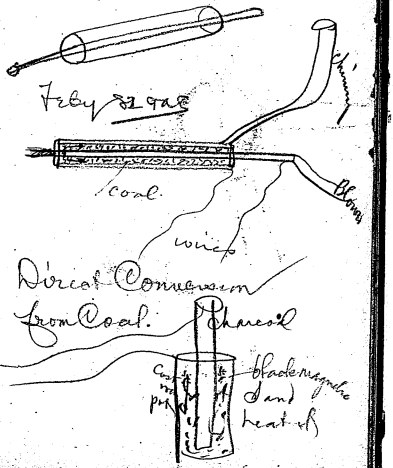
4 Oct 21 1880 Tag $3\frac{1}{2}$ $1\frac{1}{2}$ 5

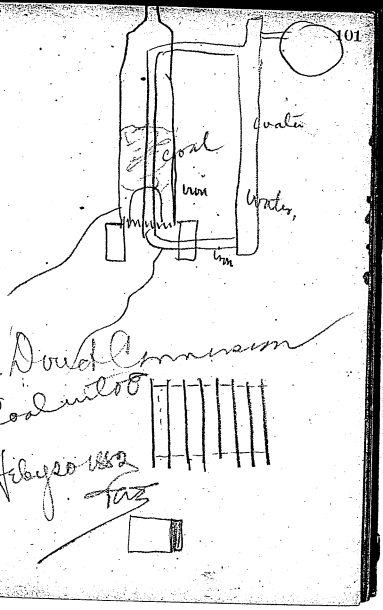
Oct 2 1880 tue

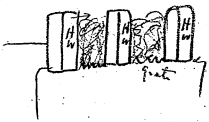





hot
Cold
Cold
hot
Cold
hot

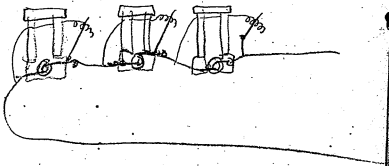

Frby
coal.
wick
Direct Conversion
from Coal.
Charcoal
blade magnetic
and
heat of

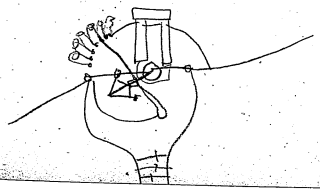

coal
iron
water
lime
Double Ammonium
Cobalt
Tobyco
tar



May 12 1882 TAE

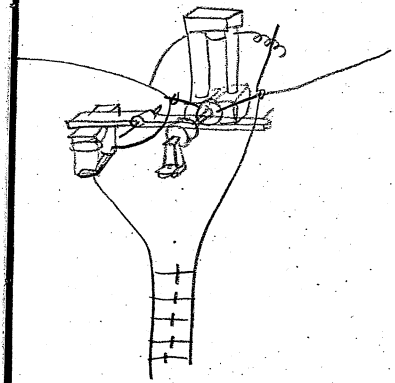
Reducing EMF





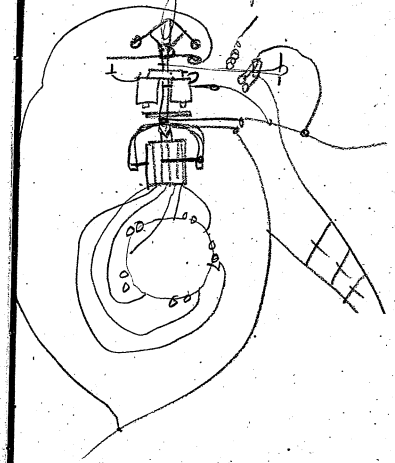
May 12 Tar 1882

Reducing EMFs -



May 12 1882 T&E

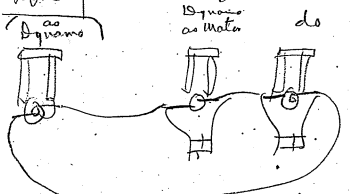
Reducing EMFs —



May 12 1882 402

Tried today plate lead on pole plate Compressed peroxide lead other pole as secondary battery. works Elegantly. Zinc pole to peroxide,

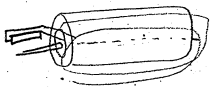
Try E.M.F reducing Experiment today



Worked Splendid over

See page 111

Present Logan Hughes
Dyer Gudall Red.
+ Dynamo man T & E



Improvement on Dynamo Bobbin
to reduce spark double up the
number of Commutators
bringing the Extra ones from the
other end through the bobbin (12)
the Ingrum Vulca + alliminate
as front with a Back connection
with Commutator Clox

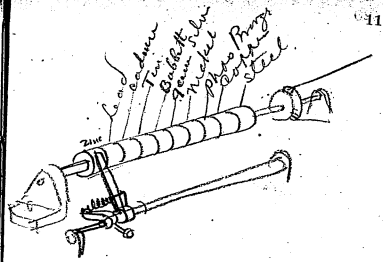
May 12 1882 TAE.

I am now trying to make Commutator bars of solid amalgam by plating (15) deposited the metal Electrolytically in the presence of a mercury Salt so it will be Continuously amalgamated as it is deposited, this will prevent sparking under the Constant putting on of Hg on the Commutator runners.

May 12 1882

Make battery by using
pole of peroxide Copper
other pole ~~peroxide~~ Iodide
~~of~~ Copper,

also try lead plate
+ peroxide lead
plate of Moulded
peroxide only in
Solution of Acetate
Lead or other
Solvable Salt of
Lead

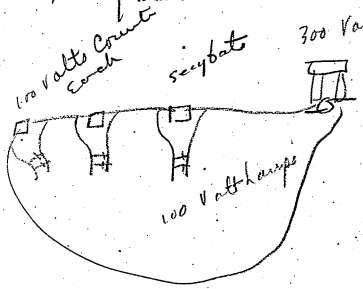


May 12 1882

Apparatus used for determining the resistance of contacts on surfaces at high velocities for Commutators of Dynamo Machines

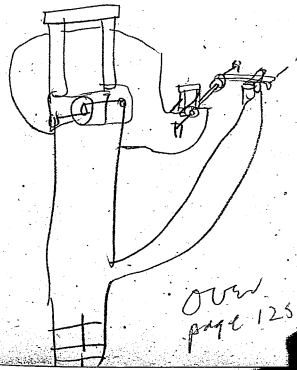
Reducing Euff

May 12 1882



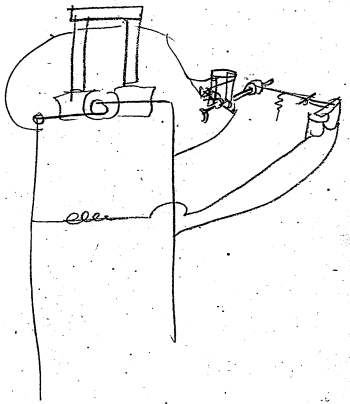
May 12 1882 702 -

Regulating field of force magnets in Isolated Dynamo automatically.

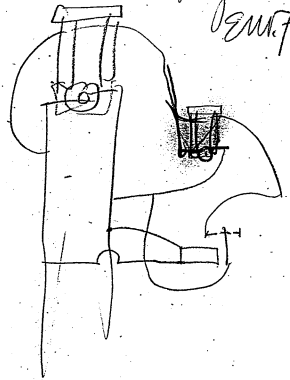


over page 125

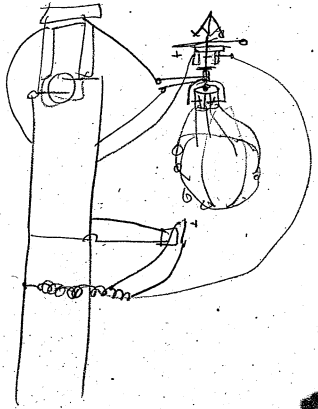
May 12 1882 TOE



Regulating
E.M.F.



May 12 1882 749



May 13 1882 [illegible]

Secondary Cattery

We now make plates of spongy metallic Lead pressed up into plates, work 6 amp up - make the metallic Sponge by precipitating hot Chl Pb or acetate Pb by Zinc or iron wash and press -

propose to make pyrophoric Lead which will be finer & use that - making it now,

Find that Zinc SO_4 N_2O & a plate of pressed peroxide Pb make fair battery

also put a carbon in a porous cell & packed around it peroxide of lead in outside cell was Zinc & various fluids / works pretty fair -

am punching out a lead plate with square holes and fill these with spongy lead obtained in the chemical way

May 13 1882 Tues.

Propose also to place in the Centre of the holes a disc of Zinc ~~xxxx~~ less in thickness than the Lead plate then place whole plate in a Solution of a lead Salt & allow the Zinc to be all used up in throwing down & filling the holes full of spongy metallic lead afterwards washing by displacement

May 13 1862 Tues

Also going try Copper plate using Iodide Copper ~~Sulph~~ over the holes of the Copper plate & around it - acidulating with HCl & other reagents.

106 | 1150 | 10.8
106
900

.10
.025
100
2500

106
1
106
106
116

25
50
1250

136

12 | 800. | 660.
72
80
72

70
35
2
4

at 1150

17

.170
13
183

62
100
1/10
10 ohms.

62 | 1150 | 17
62
430
4

50
25

.15

25 | 300
150

62 | 106 | 1.7
62
401
434

68

15
30

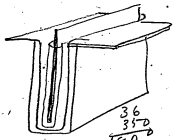
106 | 150 | 10.4
106
44
4

5

120
15
1200
3000
18000

1150
183
967

b



12
350
60
36
00

36
350
80
1008
12600

125 | 1300 | 10
125
500

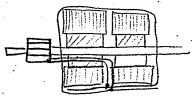
20. Zinc
125 Cop
3 ohms

12
20

144
576
4
2
1152

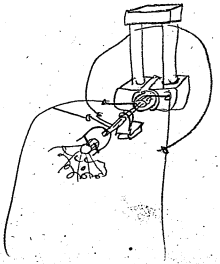
650
1300

May 13 1882 T.A.E.

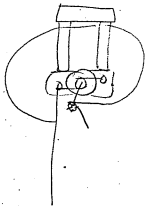


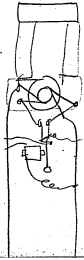
With the regular wound armature instead of connecting the armature wire with the Commutator at the Ends leave a space in the iron & connect in the centre running wires through the wood core to the Commutator cutting out places in the field - by this method 3 times the ordinary number of Commutator may be used on a single layer or double layer machine.

as is now used hence the differ
of E.M.f between the bars may
be made so small as to almost
prevent the spark. and thus
save great trouble,

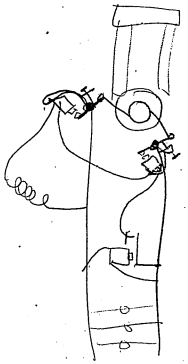


May 13 1882 tae



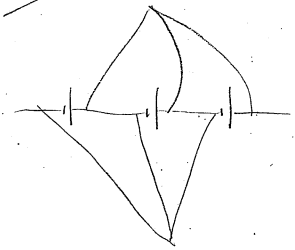


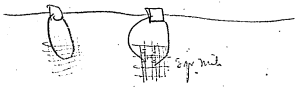
May 13 1882 Tue



Reg of Emf for Isolated

May 13 1882 [illegible]





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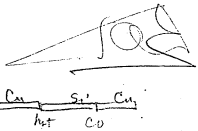
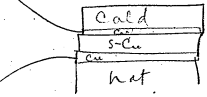


[illegible]



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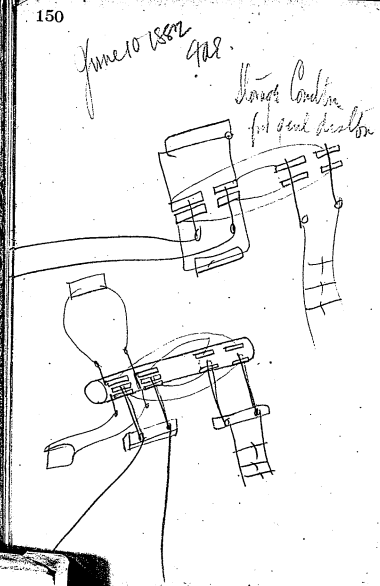
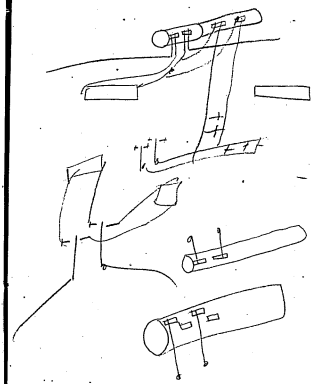
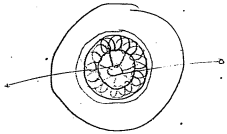
920

[illegible]







July 1 1882

New patents - Tag

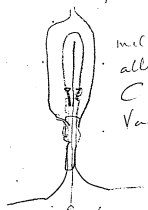
157

Feeder & System Commercial Town
Installation,

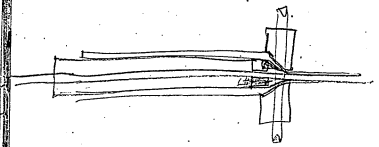
Mixing wood pulp &c fibre with particularly oxidized Linseed or other drying oils drying & forming in objects by Hydraulic pressure of semi-plastic stamping or pounding & cutting out Blanks before pounding &c baking -

Carbon monodes made out of gas retort Carbon by Burning &c. depositing Carbon on highly heated porcelain - polished lime plates, magnesia &c. or depositing on platinum nickel &c. plates by pounding &c. pounding &c. blanks -

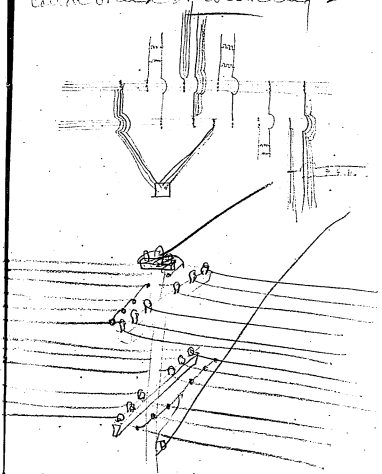
Heating filaments under ammonia
gives in presence of a gas
containing Carbon

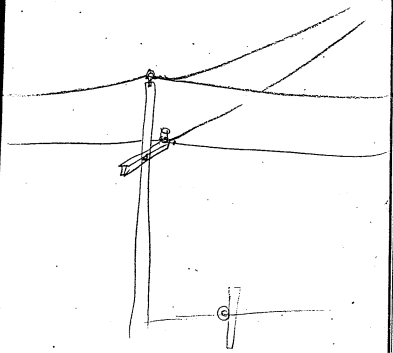


Making mounting wire
Connecting of Coating with
the drawing through
Japan Varnish baking second
Japan through C Wax baking
Spun - cloth or paper ring



for used made and of
Cotton brand or working -





10 $\frac{13}{100}$

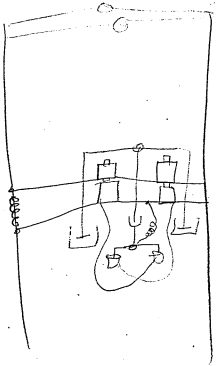
13

130
5
65 0
5
325 0

70

Meter July 21 1882

Fig 8

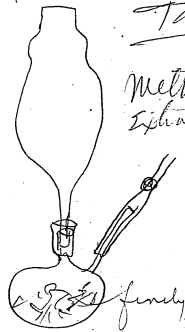


July 21 1882

TAE

Method

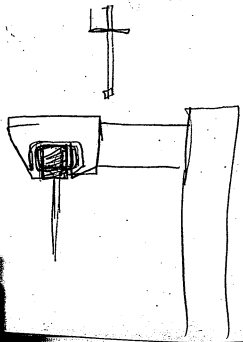
Exhausting Lamps

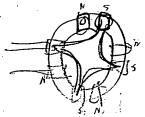


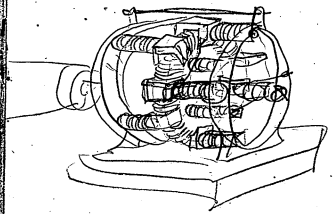
finely divided

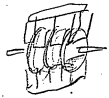
Metal used as Copper

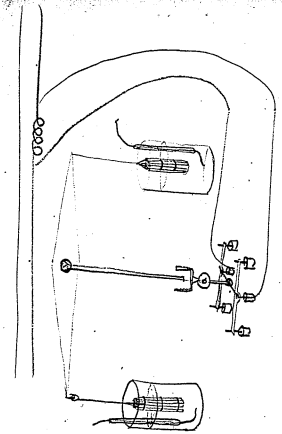
Exhaust Lamp with common air pump, then fill with Chlorine. Then Exhaust again then. Pinch off pump and allow finely divided metal to absorb the Chlorine combining without

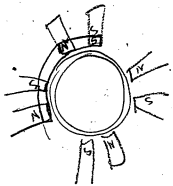


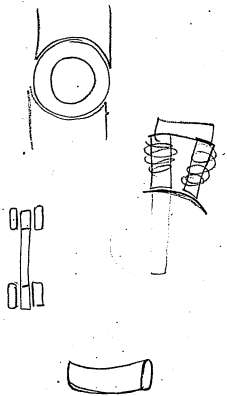


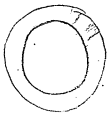


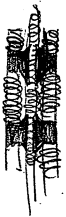


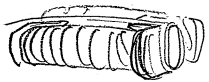


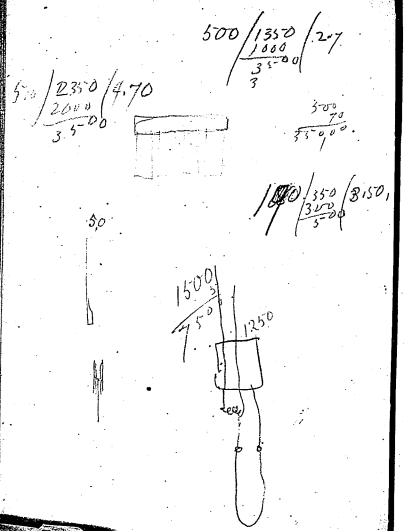








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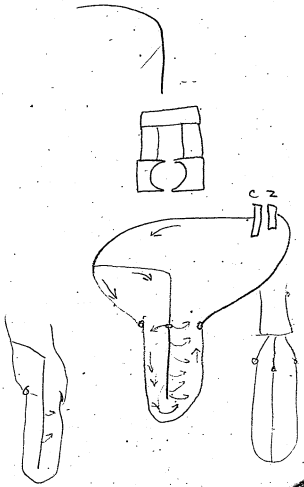
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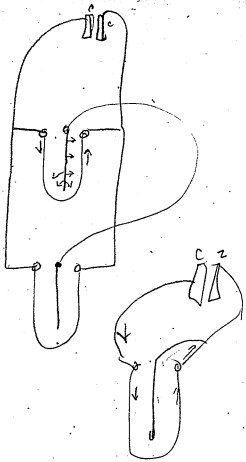
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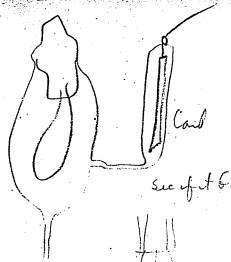
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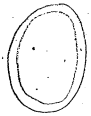

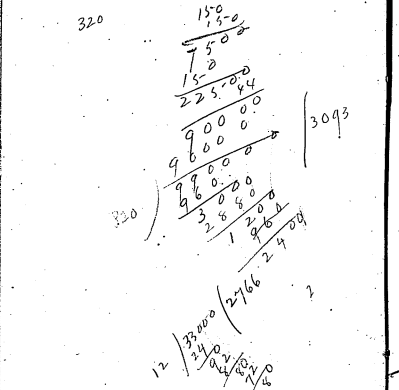

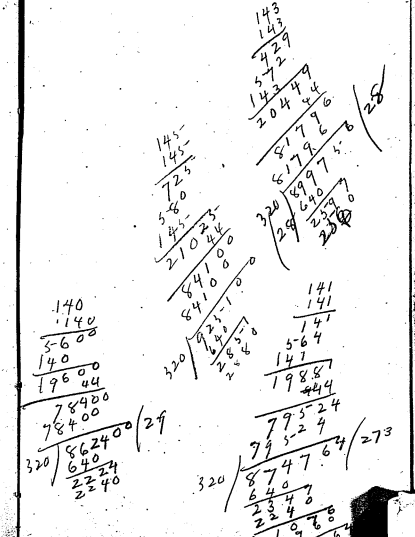

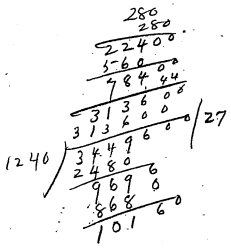

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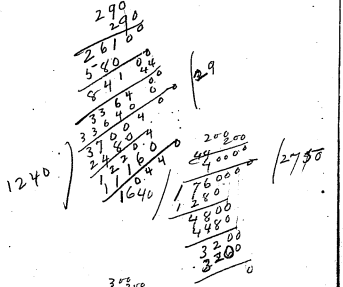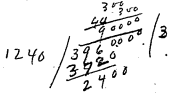
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